IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

Applicant(s): P.R. Carini et al.
Docket No.: YOR920000056US1
Serial No.: 09/755,787
Filing Date: January 5, 2001
Group: 2675
Examiner: Paul A. Bell

I hereby certify that this paper is being deposited on this date with the U.S. Postal Service as first class mail addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature: Date: October 6, 2004

Title: Methods and Apparatus for Formatted Entry of Electronic Ink

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APPEAL BRIEF

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants (hereinafter referred to as "Appellants") hereby appeal the final rejection of claims 1-42 of the above-identified application.

REAL PARTY IN INTEREST

The present application is assigned to International Business Machines Corporation, as evidenced by an assignment recorded April 13, 2001 in the U.S. Patent and Trademark Office at Reel 11717, Frame 582. The assignee, International Business Machines Corporation, is the real party in interest.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals and interferences.

STATUS OF CLAIMS

Claims 1-5, 7-15, 17-26, 28-36 and 38-42 stand finally rejected under 35 U.S.C. §102(b). Claims 6, 16, 27 and 37 stand finally rejected under 35 U.S.C. §103(a). Claims 1-42 are appealed.

STATUS OF AMENDMENTS

There has been no amendment filed subsequent to the final rejection. However, a Response to Final Office Action was filed on July 2, 2004, along with the Notice of Appeal.

SUMMARY OF INVENTION

The present invention provides several methods, and related apparatus, for the entry of formatted ink data (i.e., electronic ink) such that individual items in the data may be parsed and recognized more effectively. Each method allows users to enter formatted ink data in-line, i.e., without switching to another page, which can then be recognized with constraints and parsed for use in other application programs or databases. In addition, a method is provided for allowing user-specialization of any of these entry methods (or other similar) methods. Note that in any of these methods, the user may send the formatted ink either to the default ink-processing application, or else directly to another application or database (Specification, page 2, lines 15-23).

By way of example, FIGs. 1 through 3 illustrate a handwriting system and an overall process in which electronic ink formatted entry methodologies of the invention may be employed (Specification, page 6, line 1, through page 9, line 2).

In a first formatted ink data entry method according to the invention, referred to herein as "template-field entry," a separate page is provided for each type of formatted data to be entered, and users perform a sequence of three actions. First, the users select the type of formatted data they wish to enter; then, they place the appropriate type of page on their personal digital notepad (PDN) and enter the data; and last, they signal completion (Specification, page 2, line 24, through page 3, line 2).

By way of example, FIGs. 4 through 7 illustrate a template-field entry methodology and illustrative templates for use in association therewith (Specification, page 9, line 4, through page 11, line 16).

In a second formatted ink data entry method according to the invention, referred to herein as "implicit-field entry," each page of the pad is printed with "watermark" style lines designating predefined fields. In this method, the users need only select the type of formatted data they wish to

enter, then enter it in the appropriate fields, and last, signal completion. Note that all actions preferably take place on the current page (Specification, page 3, lines 3-7).

By way of example, FIGs. 8 through 10 illustrate an implicit-field entry methodology and illustrative preprinted forms for use in association therewith (Specification, page 11, line 18, through page 15, line 14).

In a third formatted ink data entry method according to the invention, referred to herein as "user-delineated-field entry," the users specify the type of formatted data they wish to enter; thereafter they specify the completion of each part of the formatted data; completion of the entry is implied by signaling the completion of the last part of the formatted data. Note that all actions preferably take place on the current page (Specification, page 3, lines 8-12).

By way of example, FIG. 11 illustrates a user-delineated-field entry methodology (Specification, page 15, line 16, through page 16, line 20).

In a fourth formatted ink data entry method according to the invention, referred to herein as "tagged-field entry," the users write a word or symbol in the left (or right) margin in order to specify the type of formatted data they wish to enter, and then for each field being entered. Note that all actions preferably take place on the current page (Specification, page 3, lines 13-16).

By way of example, FIG. 12 illustrates a tagged-field entry methodology (Specification, page 16, line 22, through page 17, line 9).

In a method according to the invention for allowing user-specialization of any of these or other similar methods, referred to herein as "user-specified field groupings," users are allowed to define their own (or to modify predefined) formattings for ink data entry. Note that all actions preferably take place on the current page (Specification, page 3, lines 17-20).

By way of example, FIG. 13 illustrates a user-specified field groupings methodology (Specification, page 17, lines 11-25).

ISSUES PRESENTED FOR REVIEW

(I) Whether claims 1-5, 7-15, 17-26, 28-36 and 38-42 are anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 5,838,819 to Ruedisueli et al (hereinafter "Ruedisueli");

(II) Whether claims 6 and 27 are unpatentable under 35 U.S.C. §103(a) over Ruedisueli in view of U.S. Patent No. 5,921,582 to Gusack (hereinafter "Gusack"); and

(III) Whether claims 16 and 37 are unpatentable under 35 U.S.C. §103(a) over Ruedisueli in view of U.S. Patent No. 6,504,956 to Gannage et al. (hereinafter "Gannage").

GROUPING OF CLAIMS

Claims 1-42 do not stand or fall together. Claims 1, 4-8, 13-16, 18-20, 22, 25-29, 34-37 and 39-41. Claims 2 and 23 stand or fall together. Claims 3 and 24 stand or fall together. Claims 9-12 and 30-33 stand or fall together. Claims 17 and 38 stand or fall together. Claims 21 and 42 stand or fall together.

ARGUMENT

Appellants incorporate by reference herein the disclosure of all previous responses filed in the present application, namely, responses dated April 4, 2003, January 23, 2004, and July 2, 2004.

Regarding issue (I) relating to the §102(b) rejection of claims 1-5, 7-15, 17-26, 28-36 and 38-42, it is well-established law that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Appellants believe that said claims are patentable over Ruedisueli since Ruedisueli fails to teach or suggest each and every element of said claims and, thus, the rejection fails to meet the above-cited legal requirement.

By way of example, claim 1 recites a method of entering formatted electronic ink data provided in association with a user on a handwriting system which comprises, *inter alia*, the one or more pieces of writing medium being configured to have a predefined format including one or more fields associated with the predefined format . . . . wherein a field comprises a delimited area of the writing medium, and the step of providing one or more user-specified indications to indicate that

electronic ink data entered in association with the one or more user-specified indications is to be associated with the one or more fields, so as to permit a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields. Independent claims 18, 22 and 39 provide similar limitations.

Ruedisueli discloses something significantly different. As first pointed out in Appellants' previous response dated April 4, 2003, again in a response dated January 23, 2004, and again in a response dated July 2, 2004, while Ruedisueli relates to a technique for processing and managing electronic copies of handwritten notes in accordance with a handwriting system, Ruedisueli addresses the issue of maintaining synchrony between ink notes on a physical page and the virtual, electronic version of that page. That is, Ruedisueli discloses a technique for assigning writing "sessions" to specific pages, tracking of correct correspondences between the paper copies of notes and the electronic copies (see column 1, lines 38-52), and managing pages electronically stored (see column 1, lines 55-61). See also column 2, lines 10-19, where Ruedisueli states that "each session corresponds with a time period during which a collection of notes are made without being interrupted for the purpose of making a second collection of notes."

On the other hand, the claimed invention recites that the one or more pieces of writing medium are configured to have a predefined format including one or more fields associated with the predefined format . . . . wherein a field comprises a delimited area of the writing medium, and the step of providing one or more user-specified indications (e.g., one or more tags or some form of signaling) to indicate that electronic ink data entered in association with the one or more user-specified indications is to be associated with the one or more fields, so as to permit a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields.

Advantageously, the claimed invention thus provides annotation of handwritten data for a variety of purposes, in which multiple user-specified indications (e.g., one or more tags or some form of signaling) can be made within a given session and/or page, or can be inserted at a later time. Such user-specified indications may be used to label data to a specific purpose, can have a variety of purposes, are not limited to handwritten entries, can be added at any time and are not restricted to

be associated with a session associated to a specific page, can be entered in one session, and can be attached to the same set (or intersecting sets) of strokes.

As is evident, there is a significant difference between the claimed invention and Ruedisueli since Ruedisueli relates to a technique for overcoming the problem of associating virtual ink to the correct/corresponding page. On the other hand, the claimed invention employs fields (comprising delimited areas of the writing medium) and user-specified indications so as to permit a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields. This is neither the problem that Ruedisueli addresses nor the solution that Ruedisueli offers to solve its problem.

The final Office Action points to figures 2 and 3 of Ruedisueli where a user is shown entering an item 36 (i.e., page number 1) and an item 28 (i.e., a graph), respectively. The final Office Action goes on to suggest that these items are being entered into a "delimited area" on the writing medium. However, as is clear from figures 2 and 3, the areas that the user is entering the page number and the graph are not delimited in any way on the writing medium. Thus, Ruedisueli does not teach or suggest that "one or more pieces of writing medium are configured to have a predefined format including one or more fields associated with the predefined format . . . . wherein a field comprises a delimited area of the writing medium," as in the claimed invention.

The final Office Action also cites column 4, lines 5-16, of Ruedisueli and suggests that this teaches the claim limitation of permitting "a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields." However, column 4, line 5-16, merely state that a page number (item 36) may be used to manage the electronically captured pages in a natural manner. This is clearly a different concept than providing "a transition between the entry of electronic ink data in accordance with the one or more fields [in a delimited area of the writing medium] and entry of electronic ink data that is not associated with the one or more fields [in a delimited area of the writing medium]," as in the claimed invention.

Lastly, the final Office Action again cites figures 2 and 3 (and the page number referred to as item 36) of Ruedisueli in rejecting the claim limitation "providing one or more user-specified indications to indicate that electronic ink data entered in association with the one or more user-

specified indications is to be associated with the one or more fields." However, it is not clear how this could teach or suggest the claim limitation. The final Office Action states that "the user can see the ink as he writes on the paper associated with the page number." However, if the Examiner's argument is that the area that the user writes the page number on the paper is a "field," then how would the page number itself serve as a "user-specified indication . . . to indicate that electronic ink data entered in association with [the] user-specified indication is to be associated with the one or more fields." This is not logical. The main reason is because Ruedisueli, as explained above, is not directed toward the same problems that the claimed invention addresses and therefore Ruedisueli does not teach or suggest the features recited in the claims.

To state it another way, the Examiner seems to be suggesting (at page 3 of the final Office Action) that the entry of a page number in the upper right hand corner of a page in Ruedisueli is a "user-specified indication . . . [that] indicate[s] that electronic ink data entered in association with [the] user-specified indication is to be associated with the one or more fields . . . so as to permit a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields," as in the claimed invention. Again, this is completely inaccurate. Assuming, *arguendo*, that the upper right hand corner of a page in Ruedisueli could be considered a field and the entry of a page number could be considered a user-specified indication and the rest of the page could be considered an area not associated with the field (all assumptions that Appellants reject as indicated above), the entry of a page number into the upper right hand corner of the page would in no way permit or facilitate a transition between the entry of electronic ink data in the upper right hand corner of the page and entry of electronic ink data on the rest of the page. In accordance with the problems that Ruedisueli addresses (i.e., maintaining synchrony between ink notes on a physical page and the virtual, electronic version of that page), the page number may be used to permit or facilitate transition between pages, not between the upper right hand corner of a page and the rest of the page. Again, this is because Ruedisueli clearly does not address the same problem or solution that the claimed invention addresses, and therefore Ruedisueli does not teach or suggest the above-cited claim language.

Furthermore, Appellants assert that the claims which depend from independent claims 1, 18, 22 and 39 are not only patentable over the cited reference in view of the above reasons, but also because such dependent claims recite patentable subject matter in their own right.

By way of example only, claim 2 (and claim 23) recites wherein at least one of the pieces of writing medium has the predefined format for entry of electronic ink data in accordance with the one or more fields and at least one of the pieces of writing medium does not have the predefined format, such that the user may transition between the two pieces of writing medium when performing formatted electronic ink data entry and unformatted electronic ink data entry, respectively. It is wholly unclear how figure 5b and figure 5c of Ruedisueli disclose these limitations, as suggested by the final Office Action.

Further by way of example, claim 3 (and claim 24) recites wherein the one or more fields of the one or more pieces of writing medium are preprinted in watermark form thereon, such that the user may transition between performing formatted electronic ink data entry and unformatted electronic ink data entry on the same piece of writing medium. Again, it is wholly unclear how figure 12 of Ruedisueli discloses these limitations, as suggested by the final Office Action.

Still further by way of example, claim 9 (and claim 30) recites the step of providing the user with feedback relating to the user's entry of formatted electronic ink data in accordance with the one or more fields. Claims 10-12 (and claims 31-33) recite further limitations of such feedback. In support of the rejection, the final Office Action merely suggests that such limitations are met by the fact that a user in Ruedisueli "can see the ink on the paper." However, this rationale ignores the express limitations recited in each claim.

Also, by way of example, claim 17 (and claim 38) recites wherein at least one of the pieces of writing medium has the predefined format on only a portion of the writing medium. Predefined format is recited in claim 1 in the following way: wherein the one or more pieces of writing medium are configured to have a predefined format including one or more fields associated with the predefined format such that the electronic ink data entered at the digitizing surface is computer-parseable based on the one or more fields. It is wholly unclear how the image 68 in figure 7c of Ruedisueli meets the limitation of claim 17, as suggested by the final Office Action.

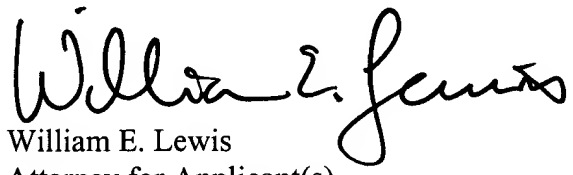
Furthermore, by way of example, claim 21 (and claim 42) recites the step of permitting at least one of user addition, deletion and modification of one or more fields. The final Office Action cites column 2, lines 25-29, of Ruedisueli in support of the rejection. However, Ruedisueli discloses no such step.

Regarding issues (II) and (III) relating to the various §103(a) rejections, since Gusack and Gannage fail to remedy the deficiencies of Ruedisueli, Appellants assert that claims 6, 16, 27 and 37 are patentable over the cited combination.

Accordingly, withdrawal of the §102(b) and §103(a) rejections of the claims is respectfully requested.

In view of the above, Appellants believe that claims 1-42 are in condition for allowance, and respectfully request favorable reconsideration.

Respectfully submitted,



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William E. Lewis
Attorney for Applicant(s)
Reg. No. 39,274
Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560
(516) 759-2946

APPENDIX

1. A method of entering formatted electronic ink data provided in association with a user on a handwriting system, the method comprising the steps of:

positioning one or more pieces of writing medium to substantially overlay at least a portion of a digitizing surface associated with the handwriting system;

physically entering handwritten data on the one or more pieces of writing medium using a stylus associated with the handwriting system such that, substantially simultaneous therewith, the electronic ink data representing the physically entered handwritten data is entered at the digitizing surface;

wherein the one or more pieces of writing medium are configured to have a predefined format including one or more fields associated with the predefined format such that the electronic ink data entered at the digitizing surface is computer-parseable based on the one or more fields, and further wherein a field comprises a delimited area of the writing medium; and

providing one or more user-specified indications to indicate that electronic ink data entered in association with the one or more user-specified indications is to be associated with the one or more fields, so as to permit a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields.

2. The method of claim 1, wherein at least one of the pieces of writing medium has the predefined format for entry of electronic ink data in accordance with the one or more fields and at least one of the pieces of writing medium does not have the predefined format, such that the user may transition between the two pieces of writing medium when performing formatted electronic ink data entry and unformatted electronic ink data entry, respectively.

3. The method of claim 1, wherein the one or more fields of the one or more pieces of writing medium are preprinted in watermark form thereon, such that the user may transition between performing formatted electronic ink data entry and unformatted electronic ink data entry on the same piece of writing medium.

4. The method of claim 1, wherein the one or more fields of the predefined format are associated with a label.

5. The method of claim 4, wherein the label is associated with an information management function.

6. The method of claim 5, wherein the information management function comprises at least one of an appointment recording function, a phone message recording function and a listing function of tasks to be accomplished.

7. The method of claim 1, wherein the user-specified indication providing step further comprises the step of the user signaling the beginning of entry of formatted electronic ink data in accordance with the one or more fields.

8. The method of claim 1, wherein the user-specified indication providing step further comprises the step of the user signaling completion of entry of formatted electronic ink data in accordance with the one or more fields.

9. The method of claim 1, further comprising the step of providing the user with feedback relating to the user's entry of formatted electronic ink data in accordance with the one or more fields.

10. The method of claim 9, wherein the feedback is at least one of auditory and visible.

11. The method of claim 9, wherein the feedback relates to whether or not the user is writing within one of the fields.

12. The method of claim 9, wherein the feedback relates to whether or not the user has completed one or more required fields.

13. The method of claim 1, wherein the handwriting system is a personal digital notepad.

14. The method of claim 1, wherein the one or more pieces of writing medium are bound together to form a grouping.

15. The method of claim 1, wherein at least one of the pieces of writing medium has a carbon paper backing.

16. The method of claim 1, wherein at least one of the pieces of writing medium has an at least partially adhesive backing.

17. The method of claim 1, wherein at least one of the pieces of writing medium has the predefined format on only a portion of the writing medium.

18. A method of entering formatted electronic ink data provided in association with a user on a handwriting system, the method comprising the steps of:

positioning one or more pieces of writing medium to substantially overlay at least a portion of a digitizing surface associated with the handwriting system;

physically entering handwritten data on the one or more pieces of writing medium using a stylus associated with the handwriting system such that, substantially simultaneous therewith, the electronic ink data representing the physically entered handwritten data is entered at the digitizing surface; and

providing one or more user-specified indications to indicate that electronic ink data entered in association with the one or more user-specified indications is to be associated with one or more fields of a predefined format, wherein a field comprises a delimited area of the writing medium, such that the electronic ink data entered in association therewith at the digitizing surface is computer-parseable based on the one or more fields, and such as to permit a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields.

19. The method of claim 18, wherein at least one of the user-specified indications comprises at least one of a letter, a symbol and a word.

20. The method of claim 18, wherein at least one of the user-specified indications comprises at least one handwritten stroke.

21. The method of claim 18, further comprising the step of permitting at least one of user addition, deletion and modification of one or more fields.

22. A handwriting system for entering formatted electronic ink data provided in association with a user, the system comprising:

a digitizing surface;

a stylus; and

one or more pieces of writing medium;

wherein the one or more pieces of writing medium are positioned to substantially overlay at least a portion of the digitizing surface such that handwritten data can be physically entered on the one or more pieces of writing medium using the stylus such that, substantially simultaneous therewith, the electronic ink data representing the physically entered handwritten data is entered at the digitizing surface;

further wherein the one or more pieces of writing medium are configured to have a predefined format including one or more fields associated with the predefined format such that the electronic ink data entered at the digitizing surface is computer-parseable based on the one or more fields, wherein a field comprises a delimited area of the writing medium, such that one or more user-specified indications can be provided to indicate that electronic ink data entered in association with the one or more user-specified indications is to be associated with the one or more fields, so as to permit a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields.

23. The system of claim 22, wherein at least one of the pieces of writing medium has the predefined format for entry of electronic ink data in accordance with the one or more fields and at least one of the pieces of writing medium does not have the predefined format, such that the user may transition between the two pieces of writing medium when performing formatted electronic ink data entry and unformatted electronic ink data entry, respectively.

24. The system of claim 22, wherein the one or more fields of the one or more pieces of writing medium are preprinted in watermark form thereon, such that the user may transition between performing formatted electronic ink data entry and unformatted electronic ink data entry on the same piece of writing medium.

25. The system of claim 22, wherein the one or more fields of the predefined format are associated with a label.

26. The system of claim 25, wherein the label is associated with an information management function.

27. The system of claim 26, wherein the information management function comprises at least one of an appointment recording function, a phone message recording function and a listing function of tasks to be accomplished.

28. The system of claim 22, wherein, in accordance with the one or more user-specified indications, the system is further operative to permit the user to signal the beginning of entry of formatted electronic ink data in accordance with the one or more fields.

29. The system of claim 22, wherein, in accordance with the one or more user-specified indications, the system is further operative to permit the user to signal completion of entry of formatted electronic ink data in accordance with the one or more fields.

30. The system of claim 22, wherein the system is further operative to provide the user with feedback relating to the user's entry of formatted electronic ink data in accordance with the one or more fields.

31. The system of claim 30, wherein the feedback is at least one of auditory and visible.

32. The system of claim 30, wherein the feedback relates to whether or not the user is writing within one of the fields.

33. The system of claim 30, wherein the feedback relates to whether or not the user has completed one or more required fields.

34. The system of claim 22, wherein the handwriting system is a personal digital notepad.

35. The system of claim 22, wherein the one or more pieces of writing medium are bound together to form a grouping.

36. The system of claim 22, wherein at least one of the pieces of writing medium has a carbon paper backing.

37. The system of claim 22, wherein at least one of the pieces of writing medium has an at least partially adhesive backing.

38. The system of claim 22, wherein at least one of the pieces of writing medium has the predefined format on only a portion of the writing medium.

39. A handwriting system for entering formatted electronic ink data provided in association with a user, the system comprising:

a digitizing surface;

a stylus; and

one or more pieces of writing medium;

wherein the one or more pieces of writing medium are positioned to substantially overlay at least a portion of the digitizing surface such that handwritten data can be physically entered on the one or more pieces of writing medium using the stylus such that, substantially simultaneous therewith, the electronic ink data representing the physically entered handwritten data is entered at the digitizing surface;

further wherein one or more user-specified indications can be provided to indicate that electronic ink data entered in association with the one or more user-specified indications is to be associated with one or more fields of a predefined format, wherein a field comprises a delimited area of the writing medium, such that the electronic ink data entered in association therewith at the digitizing surface is computer-parseable based on the one or more fields, and such as to permit a transition between the entry of electronic ink data in accordance with the one or more fields and entry of electronic ink data that is not associated with the one or more fields.

40. The system of claim 39, wherein at least one of the user-specified indications comprises at least one of a letter, a symbol and a word.

41. The system of claim 39, wherein at least one of the user-specified indications comprises at least one handwritten stroke.

42. The system of claim 39, wherein the system is further operative to permit at least one of user addition, deletion and modification of one or more fields.